

## **§1.1310, §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

According to subpart 1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

### Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

## **Result**

### **Calculated Formulary:**

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Frequency (MHz)	Maximum Antenna Gain		Tune up conducted power (mW)	MPE Limit (mW/cm <sup>2</sup> )	Minimum safety distance (cm)
	(dBi)	(numeric)			
26.965-27.405	0	1	4000	0.24	36.43

Note: the antenna gain and tune up power was provide by applicant.

To maintain compliance with the FCC's RF exposure guidelines, please place the CB radio antenna at least 36.43cm from nearby persons.

## **Result: Compliance**